

TECHNICAL BULLETIN – B 204 C

KNIGHT-WARE® PV33P

Acid Resistant Brick

Product Description

KNIGHT-WARE® PV33P Acid Resistant Bricks are a fireclay acid brick specifically formulated to provide exceptional service in pressure vessel applications subject to thermal shock and spalling. This formulation incorporates Knight's technology for pressure vessels such as reactors and autoclaves providing a low predictable swell that is desirable for pressure applications.

Maximum service life and reliability are achieved when installed as part of an engineered lining system.

The KNIGHT-WARE PV33P Brick formulation provides also the same high degree of chemical resistance and other advantageous mechanical properties provided by Knight fireclay acid brick.

KNIGHT-WARE PV33P Brick comply with ASTM C-279 Type I designation for chemical resistant masonry.

KNIGHT-WARE PV33P Bricks are available in a wide variety of sizes and shapes making it ideal for acid resistant masonry construction in various size vessels and dished heads

Typical Physical Data

Water Absorption	4 %	4 %
Bulk Density	140 lb/ft ³	2,245 kg/m ³
Acid Solubility	10 %	10 %
Compressive Strength	9,000 psi	60 MPa
Coefficient of Thermal Expansion	3.0*10 ⁻⁶ in/in/°F	5.4*10 ⁻⁶ mm/mm/°C
Modulus of Rupture	2,000 psi	13.8 MPa
Thermal Conductivity	8 BTU/in/hr-ft ² -°F	1.2 W/M-K
Tensile Strength	700 psi	5MPa
Poisson's Ratio	0.24	0.24
Young's Modulus	5.0*10 ⁶ psi	3.5*10 ⁴ MPa

The above physical data was derived by using ASTM Test Specifications C-20, C-67 and C-279

Typical Chemical Data

Alumina	Al ₂ O ₃	31.3%
Silica	SiO ₂	61.5%
Titania	TiO ₂	1.4%
Iron Oxide	Fe ₂ O ₃	2.1%
Other	-	3.7%

Note

The information contained in this bulletin is believed to be accurate and reliable but is not to be construed as implying any warranty or guarantee of performance. Data are subject to reasonable variations and should not be used for specification purposes.

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